



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/254.769	03/11/99	BEAMAN	Y0598-1498

DANIEL P MORRIS  
IBM CORPORATION  
INTELLECTUAL PROPERTY LAW DEPT  
PO BOX 218  
YORKTOWN HEIGHTS NY 10598

MMC1/1207

NGUYEN, V	EXAMINER
-----------	----------

ART UNIT 2858	PAPER NUMBER
------------------	--------------

DATE MAILED: 12/07/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/254,769

Applicant(s)

BEAMAN ET AL.

Examiner

VINH P NGUYEN

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 March 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;

Art Unit: 2858

(4) if a mixture, its ingredients;

(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. Claims 1-60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear what "a means for permitting each of said plurality of said second ends to move about reference positions", "sheet of material" and "perforation" represent. Are they shown in any drawings? In claims 4-5, it is unclear what "a plurality independent

perforations" represents. Are they shown in any of drawings? In claim 6, "said perforation a portion coupled to an adjacent through hole" should be "said perforation a portion coupled to an adjacent through hole". In claim 9, "said perforations" has no antecedent basis. In claim 12, it is unclear what "a dielectric material" and "a means for preventing said ..." represent. Are they shown in any of drawings? In claim 26<sup>?</sup>, it is unclear what "means for holding said substrate", "means for retractable moving said structure of claim 1 toward and away from said electronic device" and "means for applying electrical signal..." represent. Are they shown in any of drawings? In claim 28<sup>?</sup>, it is unclear what "a dielectric material" represents. Is it shown in any of drawings? In claim 31<sup>?</sup>, it is unclear what "a sheet of rigid material", "a dielectric material" and "a means for preventing said ..." represent. Are they shown in any of drawings. In claim 32, it is unclear what "a dielectric material" and "a sheet of rigid material" represent. Are they shown in any of drawings? In claim 34, it is unclear what "a means for permitting each of said plurality of said ball shaped contacts to move about reference positions" represents. Is it shown in any drawings? In claim 36, "said probes" has no antecedent basis. In claim 37, it is unclear what "a layer of elastomer material" represents. Is it shown in any drawings? In claims 38-39 and 45, it is unclear what "a sheet of invar material" represents. Is it shown in any of drawings? In claims 40-41, it is unclear what "a sheet of polymer material" represents. Is it shown in any of drawings? In claims 42-43, it is unclear what "frame of invar material" represents. Is it shown in

any of drawings? In claim 44, it is unclear what "a plurality of probes arrays" represent. Are they shown in any of drawings? In claim 46, it is unclear what "a means for permitting each of said plurality of said second ends to move about reference positions" represents. Is it shown in any drawings? In claim 52, it is unclear what "a layer of elastomer material" represents. Is it shown in any of drawings? In claim 53, it is unclear what "a sheet of polymer material" represents. Is it shown in any drawings? In claim 54, it is unclear "an epoxy material" represents. Is it shown in any drawings? In claim 55, it is unclear what "the plurality of probes" represent. Are they shown in any of drawings? In claim 56, it is unclear what "the plurality of collar" and "the plurality of probe wires" represent. Are they shown in any of drawings? In claim 57, it is unclear what "a sheet of polymer material" represents. Is it shown in any of drawings? In claim 58, it is unclear what "a plurality of probes arrays" represents. Are they shown in any of drawings? In claim 59-60, it is unclear what "a sheet of material" represent. Are they shown in any of drawings?

The dependent claims not specifically address share the same indefiniteness as they depend from rejected base claims.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2858

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-49 and 51-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bross et al (Pat # 5,225,777)

As to claims 1-7, 10-35, 46 and 58-60, Bross et al disclose a high density probe for making contact with an integrated circuit having a substrate (23), a plurality of elongated electrical conductors (36) extending away from the surface of the substrate (23), means for permitting (26) for second ends projecting thereon, a plurality of perforations (28) about each of the through hole (40). It appears that the permitting means is a sheet and this sheet is made of elastomeric material. Furthermore, the material for the substrate such as silicon or ceramic with thin film wiring would have been well-known in the art. As to claims 47-49, the selection of the material for the sheet would have been an obvious design choice since the material for the sheet does not effect on the test results. As to claims 8-9, 36-45, 51-57 since their limitations are indefinite, they are not given any patentable weight.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 50 is rejected under 35 U.S.C. 102(b) as being anticipated by Beaman et al (Pat # 5,371,654).

As to claim 50, Beaman et al disclose in figure # 6 an apparatus having a first fan out substrate (94) with a plurality of contact locations (104), a plurality of ball bonds (90) attached to the contact locations (104), a plurality of wires (84) extending outward from the ball bonds (104) and a plurality of ball bond shaped contacts (92) on the end of the wires (84).

9. Claim 50 is rejected under 35 U.S.C. 102(b) as being anticipated by Luttmmer (Pat # 3,795,037).

As to claim 50, Luttmmer discloses in figure # 9 an apparatus having a first fan out substrate (74) with a plurality of contact locations (76), a plurality of ball bonds (70) attached to the contact locations (76), a plurality of wires (72) extending outward from the ball bonds (70) and a plurality of ball bond shaped contacts (70) on the end of the wires (72).

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Shi et al (Pat # 5,810,607) disclose an interconnector with contact pads having enhanced durability.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P. NGUYEN whose telephone number is (703) 305-4914.



Art Unit: 2858

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

  
VINH P. NGUYEN  
PRIMARY EXAMINER  
ART UNIT 2858  
12/04/2000